

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A computer system comprising at least two processes P1, P2, . . . Pi, . . . PN connected by a network, wherein each process is executed by a piece of hardware equipped with an operating system, wherein a process comprises:

a library software layer used by the operating system to access a program for activation of a communications protocol associated with an input/output of the hardware;

an intermediate software layer comprising an inter-process communications process associated with a communications channel; and

a multiplexer encapsulated in the library software layer and configured to multiplex [[the]] ~~a communications~~ communication channel of a process Pi with [[the]] ~~communications~~ communication channels of the other processes P1, P2, . . . PN, [[the]] data exchanges between processes being made in a form of data flows, ~~the communications a~~ communication channel between two processes Pi, Pk being activated by the multiplexers of the two processes Pi, Pk, upon a request to activate the communication channel between the two processes Pi, Pk transmitted by one of them the two processes Pi, Pk.

Claim 2 (Currently Amended): The system according to claim 1, wherein the library software layer is interposed between an applications software layer and the operating system.

Claim 3 (Currently Amended): The system according to claims 1 or 2, wherein ~~the transmission a~~ communication channel carries out a one-way transfer of data between two processes.

Claim 4 (Currently Amended): The system according to claims 1 or 2, wherein an inter-process communications service is activated by the multiplexer intercepting calls pertaining to inputs/outputs of the hardware according to a protocol made up of requests and responses, this protocol being defined at a level of the multiplexer in a table indicating a type of data, wherein data exchanges are made in a form of data flows.

Claim 5 (Previously Presented): The system according to claim 4 wherein, in addition to the inter-process communications service, other services activated by the multiplexer are associated with the process, the services being activated according to a protocol consisting of requests and responses.

Claim 6 (Currently Amended): The system according to claim 4, wherein the table indicates ~~the type of data, namely~~ whether ~~[[it]]~~ the data is a request or a response, an associated service, and sizing attributes for data processing.

Claim 7 (Previously Presented): The system according to claim 6, wherein, when a service is a master-slave redundancy, a first instance of the slave being a master and the following instances being slaves, a process  $P_i$  sends out a request, this request is processed by all other processes  $P_1, P_2, \dots, P_N$ , the multiplexer of these processes filtering the responses of the slaves, and in the event of a loss of a master, a slave is promoted to master in its turn.

Claim 8 (Previously Presented): The system according to claim 7, wherein, in a selective concurrent mode of access to a process, to enable a distribution of a processing load among several instances of the process, the multiplexer of the process is configured to make a selection, at each request, of the instance that carries out the processing.

Claim 9 (Previously Presented): The system according to claim 8, wherein, in a mode of non-selective concurrent access to a process, at least two instances of a process make a same request, their responses being returned to a client process which decides on a validity of a response.

Claim 10 (Previously Presented): The system according to claim 9, wherein the multiplexer collects supervision data at two boundaries that it faces, an interface with the process P1, P2, . . . PN and an interface with the transport medium for all these data, the process recording a number of measurements, a minimum, maximum and mean values, for each of these values, thresholds being configured, a crossing of these thresholds being used to activate an alarm or to carry out another action.

Claim 11 (Currently Amended): The system according to claim 10, wherein, for the interface with the process, the multiplexer collects [[the]] data pertaining to a size of the requests or responses, a frequency and a processing time taken by the process, and for [[the]] an interface with the transport medium, the multiplexer collects [[the]] data pertaining to a latency time and to a quality of transmission.